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Faunistic notes on some Heterocera of Turkey (Lepidoptera)

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Abstract: Faunistic notes on some Heterocera of Turkey (Lepidoptera). *Misc. Pap*. 198: 1-14, 27 figs.
In this paper, some faunistic information about 83 Heterocera species of Turkey are evaluated. Totally 31 new provincial records are given. Male genitalia of 24 species are illustrated. Tympanal organ of *Eupithecia brunneata* is given here for the first time.

Key words: Lepidoptera, Arctiidae, Cossidae, Ctenuchidae, Drepanidae, Geometridae, Hepialidae, Lasiocampidae, Lymantriidae, Noctuidae, Notodontidae, Oecophoridae, Pyralidae, Sesiidae, Sphingidae, Tortricidae, fauna, Turkey.

In this paper, 83 species of 15 nocturnal families of the Lepidoptera, collected by various authors and preserved in the Collection of the Cesa, are evaluated faunistically for the first time. As a result of this, 31 new provincial records are reported here. Male genitalia of 24 species are also illustrated.

In the text before the scientific name the sequence number of the species are given, mentioned in the latest synonymous and distributional list of the species of the Lepidoptera of Turkey (Koçak & Kemal, 2018). With two exceptions, all the species are identified by the authors.

Arctiidae

471.Atolmis *rubricollis* (Linnaeus,1758)

Material studied: 1♂. Bolu Prov., Abant road 1200m, 4. vii. 1981, A. Koçak leg.

Cossidae

907.*Azygophleps regia* (Staudinger,1892) (Fig. 1)

Remarks: Male genitalia of this species (GP735), collected from Hakkari Prov. (Zap valley) is illustrated here.

913. *Cossus cossus* (Linnaeus,1758)

Material studied: 1♀. Bolu Prov., Abant road 1200m, 4. vii. 1981, A. Koçak leg.

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939.*Isoceras bipunctatum* (Staudinger,1887)
Material studied: 1♂. Van Prov., Çatak, Amata valley 1650m (65Dlc), 2-3.vii.2007, M.Kemal & A.Koçak leg. - 1♂. Bitlis Prov., Başor valley, Ünaldı 1340m (13Cg), 17.vi.2011, M.Kemal & A.Koçak leg.
Remarks: New to Van Province.

942.*Paracossulus thrips* (Hübner,[1818])
Material studied: 1♂. Van Prov., Kurubaş Pass 2240m (65Ke), 30.vii.2012, A.Koçak leg.

954.*Zeuzera pyrina* (Linnaeus,1761) (Fig. 2)
Remarks: Male genitalia of this species (GP736), collected from Hatay Prov. (Akbes) is illustrated here.

Ctenuchidae

961. *Amata rossica* (Turati,1917)
Material studied: 1♂. Bayburt Prov., 5km W Maden 1700m (69Bc), 12.vii.1985, A.Koçak leg.
Remarks: New to Bayburt Province.

Drepanidae

983. *Cilix glaucata* (Scopoli,1763)
Material studied: 1♂. İstanbul Prov., Pendik Kaynarca (34H) 3.viii.1969, A.Koçak leg.
Remarks: This faunistic record is new to İstanbul Province.

Geometridae

1386. *Alcis repandata* (Linnaeus,1758)
Material studied: 1♂. Ankara Prov., Keçiören, Etlik 960m, 23.ix.2019, M. Kemal & A.Koçak leg.

1397.*Aplocera annexata* (Freyer,[1830]) (Fig. 3)
Remarks: This species is widely distributed in Turkey at the upper heights of the mountains. The male genitalia of the specimen from Bursa Prov. (Uludağ) is given here.

1402.*Aplocera numidaria* (Herrich-Schäffer,[1852]) (Fig. 4)
Remarks: This little known species occurs in northern Turkey (known from 7 provinces) at the upper heights of the mountains. The male genitalia of the specimen from upper heights of Amasya Prov is illustrated here.

1403.*Aplocera obsitaria* (Lederer,1853) (Fig. 5)
Remarks: This variable species is widely distributed in Turkey at the upper heights of the mountains. The male genitalia of the specimen from Kahramanmaraş Prov. is illustrated here. Its subspecies may be considered as *evanescens* Wehrli,1931.

1404.*Aplocera opificata* (Lederer,1870) (Fig. 6)
Remarks: This little known species occurs in northern Turkey (known from 7 provinces) at the upper heights of the mountains. The male genitalia of the specimen from Erzincan Prov. (Refahiye) is given here.

1407.*Aplocera uniformata* (Urbahn,1971) (Fig. 7)
Remarks: This little known species occurs in northern Turkey (known from 7 provinces) at the upper heights of the mountains. The male genitalia of the specimen from Zigana Pass (Gümüşhane Prov., Torul) (GP426♂) is illustrated here. This species was also recorded by Koçak from from Bolu Prov. (Kartalkaya, 1900m) (GP1264♂).

1414.*Asovia maeoticaria* (Alpheraky,1876) (Fig. 8)
Material studied: 1♂ (GP671). Konya Prov., Akşehir 1100m, 1.vi.1976, A.Koçak leg.
Remarks: For understanding its suprageneric position among other related genera, DNA analysis is needed.

1464. *Charissa (Neognophina) pfeifferi* (Wehrli,1926)
Material studied: 1♂. Bingöl Prov., Kuruca Pass 1700m (12Ab), 14.ix.2019, M. Kemal & A.Koçak leg.
Remarks: New to Bingöl Province.

1527.*Dasycorsa modesta* (Staudinger,1879)
Material studied: 2♂. Ankara Prov., Çubuk Barajı-I 900m (06Aa) 15.iv.1972 and 25.v.1974 respectively, A.Koçak leg.
Remarks: New to Ankara Province.

1546. *Ematurga atomaria* (Linnaeus,1758)
Material studied: 1♂. Bolu Prov., Abant road 1200m, 4.vii.1981, A.Koçak leg.

1578.*Eumera turcosyrica* Wehrli,1932 (Fig. 9)
Material studied: 1♂ (GP727). Konya Prov., Beyşehir, Üçpınar 1200m, 5.ix.1984, A.Koçak leg. - 1♂. Kayseri Prov., Kayseri city E 1450m, 7.ix.2007, M.Kemal & A.Koçak leg.
Remarks: A comparison of the male genitalia with *Eumera regina* was given by Wehrli (1934: 40). This is a new record for the fauna of Kayseri Province. It was also found by the authors from Anamur highland (İçel Province) in autumn.
For understanding its suprageneric position among other related genera, DNA analysis is needed.

1601.*Eupithecia brunneata* Staudinger,1900 (Figs. 10-13)
Material studied: 1♂. Diyarbakır Prov., Hazro, Uzunargıt 953m (21Lc), 16.v.2015, M.Kemal & A.Koçak leg.
Remarks: This species was described from Mardin (SE Turkey), and also reported from Siirt Prov. (Şirvan) by Seven,E (2017). The present record is new for the fauna of Diyarbakır Prov. and Hazro (SE Turkey) (Kemal & Koçak, 2015). The tympanal organ of this species is illustrated here for the first time. This species was also recorded by the authors from Güçlükonak: Cumavi (Şırnak Prov.) (73Eb).

1618.*Eupithecia extremata* (Fabricius,1787)
Material studied: 1♂. Konya Prov., Akşehir 1100m (42B), 1.vi.1976, A.Koçak leg.

1625.*Eupithecia gueneata* Millière,1862
Material studied: 1♀. Hakkari Prov., Yüksekova, Esendere (30De), 3.vii.1972, A.Koçak leg. - 1♂. Hakkari, Zap karakolu 1350m [Kırıkdağ] (30Bd), 3.vii.1972, A.Koçak leg.

1638.*Eupithecia limbata* Staudinger,1879
Material studied: 1♂. Bitlis Prov., Adilcevaz, Süphan Mt., Aygır 1970m (13Ab), 14.vii.2015, M. Kemal & A.Koçak leg. – 1♀. Van Prov., Gevaş, Artos Mt. 1980m (65Fp), 14.vii.2012, M. Kemal & A.Koçak leg. - 2♂. Van Prov., Çatak, Saklıvadi 2025m (65Df) 12.vii.2016; 13♂♀ from same place, 25.vii.2016, M. Kemal & A.Koçak leg. – 2♀. Van Prov., Başkale, Ziyanis E 2400m (65Bo), 9.vii.2015, M. Kemal & A.Koçak leg. - 3♂♀. Van Prov., Bahçesaray, Liman Populetum 2320m (65Ac3), 6.viii.2016 and 16.vii.2017, M. Kemal & A.Koçak leg. – 1♂. Van Prov., Bahçesaray, Paşaköy 1600m (65Ai), 4.viii.2016, M. Kemal & A.Koçak leg. –1♀. Bahçesaray, Upper Mukus Valley 1840m (65Am4), 5.viii.2016, M. Kemal & A.Koçak leg. –Van Prov., Gürpınar, Zernek 1975m (65Gb), 20.vii.2017, M. Kemal & A.Koçak leg.

1670.*Eupithecia scalptata* Christoph,1885
Material studied: 3♀. Hakkari Prov., Hakkari city 1600m, 30.vi.1972 and 2.vii.1972, A.Koçak leg. - 1♀. Hakkari Zap karakolu 1350m [Kırıkdağ] (30Bd), 3.vii.1972, A.Koçak leg. - 1♀. Ankara Prov., Çal Dağı 1400m (06Kb), 10.vi.1981, A.Koçak leg.

1681.*Eupithecia spissilineata* (Metzner,1846)
Material studied: 1♀. Ankara Prov., Çubuk Barajı-I, 4.vi.1974, A.Koçak leg.

1696.*Eupithecia variostrigata* Alpheraky,1876
Material studied: 4♂♀. Ankara Prov., Kepekli Pass 1200m (06Kc), 29.ix.1981. - 1♀. Same province, Çal Dağı 1200m, 20.ix.1979. – 3♂♀. Çal Dağı 1300m 24.ix.1981, all A.Koçak leg.

1722. *Heliomata glarearia* (Brahm,1791)
Material studied: 1♂. Kastamonu Prov., Kastamonu 800m, 16.vi.1974, A.Koçak leg.

1763. *Idaea filicata* (Hübner,[1799])
Material studied: 1♂. Bitlis Prov., Tatvan, Kavaklı 1790m (13G1), 14.ix.2019, M. Kemal & A.Koçak leg.
Remarks: New to Bitlis Province.

1776. *Idaea deversaria* (Herrich-Schäffer,[1847])
Material studied: 1♂. Bitlis Prov., Tatvan, Kavaklı 1790m (13G1), 14.ix.2019, M. Kemal & A.Koçak leg.
Remarks: New to Bitlis Province.

1832. *Lithostege griseata* ([Denis & Schiffermüller],1775)
Material studied: 1♂. Kayseri Prov., Kayseri city 1100m, 11.v.1973, A.Koçak leg.

1874.*Neognopharmia cataleucaria* (Staudinger,1901)
Material studied: 2♂ (topotypes). Mardin Prov., Mardin 1200m 14.vii.1974, A.Koçak leg.

1955. *Rhodometra sacraria* (Linnaeus,1767)
Material studied: 2♂. Bitlis Prov., Tatvan, Kavaklı 1790m (13G1), 14.ix.2019, M. Kemal & A.Koçak leg.

1957. *Rhodostrophia (Asiotrophia) auctata* (Staudinger,1879)
Material studied: 1♂. Kütahya Prov., Murat Dağı 10.vii.1971, Salih Doğramacı leg.

1958. *Rhodostrophia (Pellonia) vibicaria* (Linnaeus,1761)
Material studied: 1♂ (GP945). Erzurum Prov., Pazaryolu, Akbulut 1550m, 11.vii.1985, A.Koçak leg.

1962. *Rhodostrophia* (s.str.) *discopunctata* Amsel,1935
Material studied: 1♂. Antakya Prov., Hassa (31E), 17.v.1972, A.Koçak leg. - 1♂. Kütahya Prov., Murat Dağı 10.vii.1971, Salih Doğramacı leg. – 1♂. Antakya Prov., Harbiye 19.v.1972, A.Koçak leg. - 1♂. Osmaniye Prov., Düldül Dağı 800m, 4.vi.1972, A.Koçak leg.
Remarks: New to Kütahya and OsmaniyeProvinces.

1983. *Scopula marginepunctata* (Goeze,1781)
Material studied: 1 ex. Edirne Prov., Havsa, Necatiye 55m (22Ca), 3.x.1980, A.Koçak leg.

1987. *Scopula orientalis* (Alpheraky,1876)
Material studied: 1♂. Bayburt Prov., 5km W Maden 1700m (69Bc), 12.vii.1985, A.Koçak leg.
Remarks: New to Bayburt Province.

Hepialidae

2153. *Triodia amasina* (Herrich-Schäffer,[1851]) (Fig. 14)
Material studied: 1♂. Edirne Prov., Havsa, Necatiye 55m (22Ca), 3.x.1980, A.Koçak leg. - 3♂. Bitlis Prov., Tatvan, Kavaklı 1790m (13G1), 14.ix.2019. 1♂. Bingöl Kuruca Pass 1700m (12 Ab),

14.ix.2019. 3♂. Kahramanmaraş Pr., Elbistan, Şar Dağı 1325m, 15.ix.2019, all the material were collected by M.Kemal & A.Koçak.
Remarks: This autumnal species is widely distributed in the steppe. Adults are nocturnal and come to the light after dusk. The male genitalia from Konya Prov., Meram, vicinity of Altınapa is illustrated here. New to Bitlis and Edirne Provinces.

Lasiocampidae

2181. *Malacosoma neustrium* (Linnaeus,1758)
Material studied: 1♂. Bolu Prov., Abant road 1200m, 1.viii.1980; 3♂. Bolu Prov., Abant road 1200m, 4.vii.1981, A.Koçak leg. - 2♂. Bayburt Prov., 11km S of Maden, Lololu Pass 1820m (69Bd), 12.vii.1985, A.Koçak leg.
Remarks: New to Bayburt Province.

Lymantriidae

2220.*Euproctis chrysorrhoea* (Linnaeus,1758)
Material studied: 1♂. Bingöl Prov., Solhan, Şeref Karakolu 1400m (12Ec), 25.vii.2008, M. Kemal & A.Koçak leg.

2221.*Euproctis melania* (Staudinger,1892)
Material studied: 1♂. Bingöl Prov., Solhan, Şeref Karakolu 1400m (12Ec), 25.vii.2008, M. Kemal & A.Koçak leg.

2223. *Leucoma salicis* (Linnaeus,1758)
Material studied: 1♂. Bolu Prov., Abant road (14Bb), 15.vii.1976, A.Koçak leg.

2231. *Parocneria detrita* (Esper,[1785])
Material studied: 1♂. Bolu Prov., Abant road (14Bb), 7.vii.1981, A.Koçak leg.

2241.*Polymona lapidicola* (Herrich-Schäffer,[1852]) (Fig. 15)
Remarks: This species is widely distributed in Turkey. The male genitalia of the specimen from Altınapa (Konya Prov.) (GP732♂) is illustrated here.

Noctuidae

2389.*Agrotis (s.str.) exclamationis* (Linnaeus,1758)
Material studied: 3♀. Bolu Prov., Abant road 1200m, 4.vii.1981, A.Koçak leg.
Remarks: This species is a serious pest and widely distributed in Turkey.

2418. *Amphipyra* (s.str.) *stix* Herrich-Schäffer,[1850]
Material studied: 1♂. Bingöl Prov., Solhan, Şeref Karakolu 1400m (12Ec), 25.vii.2008, M. Kemal & A.Koçak leg.
Remarks: New to Bingöl Province.

2446.*Apamea (s.str.) monoglypha* (Hufnagel,1766)
Material studied: 1♀ (det. G.Ebert, pers. comm.). Bolu Prov., Abant road 1200m, 15.vii.1976, A.Koçak leg.
Remarks: This species is widely distributed in Turkey. New to Bolu Province.

2524. *Calamia staudingeri* Warnecke,1941
Material studied: 1♂. Bayburt Prov., 5km W Maden 1700m (69Bc), 12.vii.1985, A.Koçak leg.
Remarks: New to Bayburt Province.

2594. *Catocala* (s.str.) *abacta* Staudinger,1900
Material studied: 1♂. Bingöl Prov., Solhan, Şeref Karakolu 1400m (12Ec), 25.vii.2008, M. Kemal & A.Koçak leg.

2845. *Epilecta linogrisea* ([Denis & Schiffermüller],1775)
Material studied: 1♂. Bingöl Prov., Solhan, Şeref Karakolu 1400m (12Ec), 25.vii.2008, M. Kemal & A.Koçak leg.
Remarks: New to Bingöl Province.

2985. *Gortyna (Cervyna) cervago* Eversmann,1844
Material studied: 1♂. Bitlis Prov., Tatvan, Kavaklı 1790m (13G1), 14.ix.2019, M. Kemal & A.Koçak leg.
Remarks: New to Bitlis Province.

3100. *Hypena munitalis* Mann,1861
Material studied: 1♂. Bingöl Prov., Solhan, Şeref Karakolu 1400m (12Ec), 25.vii.2008, M. Kemal & A.Koçak leg.

3137.*Leucania loreyi* (Duponchel,1827)
Material studied: 1♂(GP889). Adana Prov., Pozantı 900m (01H), 17.vi.1976, A.Koçak leg.

3161.*Lycophorus ankarensis* (Rebel,1931)
Material studied: 62♂♀. Van Prov., Campus YYU 1650m , 10.x.2001, M.Kemal & A.Koçak leg.

3186. *Melanchra pisi* (Linnaeus,1758)
Material studied: 1♂. Bolu Prov., Abant road (14Bb), 15.vii.1976, A.Koçak leg.
Remarks: New to Bolu Province.

3231. *Mythimna (Hyphilare) albipuncta* (Fabricius,1787)
Material studied: 1♂. Edirne Prov., Havsa, Necatiye 55m (22Ca), 3.x.1980, A.Koçak leg.
Remarks: New to Edirne Province.

2704. *Nyctobrya amasina* (Draudt,1931)
Material studied: 1♂. Bingöl Prov., Solhan, Şeref Karakolu 1400m (12Ec), 25.vii.2008, M. Kemal & A.Koçak leg.
Remarks: This species was previously placed in the genus *Cryphia*.

3275.*Oligia latruncula* ([Denis & Schiffermüller],1775) (Fig. 16)
Material studied: 1♂ (GP3136). Bolu Prov., Abant road (14Bb), 4.vii.1981, A.Koçak leg.
Remarks: This species is widely distributed in Turkey. However, it is reported here in Bolu Province for the first time. The status of *erewani* Fazekas, *grisescens* Heydemann is discussable (*cf.* Rezbanyai-Reser, 1997, 1998).

3345. *Phlogophora scita* (Hübner,1790)
Material studied: 2♂. Trabzon Prov., Maçka, Meryemana 1100m, 25-29.vii.1972, A.Koçak leg.

3504.*Tyta luctuosa* ([Denis & Schiffermüller],1775)
Material studied: 1♂. Bayburt Prov., 11km S of Maden, Lolollu Pass 1820m (69Bd), 12.vii.1985, A Koçak leg.
Remarks: This species is widely distributed in Turkey. New to Bayburt Province.

Notodontidae

3555.*Cerura (s.str.) intermedia* (Teich,1896)
Material studied: 1♂ (topotype). Iğdır Prov., Kentormanı 960m (76Bb), 9.v.2012, M. Kemal & A.Koçak leg. - 1♂. Bingöl Prov., Solhan, Şeref Karakolu 1400m (12Ec), 25.vii.2008, M. Kemal & A.Koçak leg.
Remarks: For the confirmation of the identity, DNA analysis is needed.

3563. *Drymonia obliterata* (Esper,[1785])
Material studied: 1♂. Bingöl Prov., Solhan, Şeref Karakolu 1400m (12Ec), 25.vii.2008, M. Kemal & A.Koçak leg.
Remarks: New to Bingöl Province.

Oecophoridae

3599.*Agonopterix ciliella* (Stainton,1849) (Fig. 17)
Material studied: 1♂ (worn, GP3137) (det. P. Buchner, pers. comm.). Bolu Prov., Abant 1400m (14Ib), 27.v.1974, A. Koçak leg.
Remarks: New for the fauna of Bolu Province.

3640. *Anchinia mukusensis* Kemal & Koçak,2017
Material studied: 1♂. East Turkey, Van Prov., Çatak, Amata valley 1650m (65Dlc), 2-3.vii.2007, M. Kemal & A.Koçak leg.
Remarks: The name *mukusensis* was proposed and described by Kemal Koçak in 2017 from Bahçesaray District of Van Province as a subspecies of *Anchinia cristalis*. After the DNA analysis, the *mukusensis* population, it has been understood that its genetic distance between the range 4.47-4.81% with *Anchinia cristalis* and *Anchinia laureolella* populations. Therefore, *mukusensis* was treated as a distinct species (Kızıldağ & Kemal, 2019).
In the present paper, this species is reported from Çatak District for the first time.

Pyralidae

4099.*Dioryctria mendacella* (Staudinger,1859) (Fig. 18)
Remarks: This species is little known in Turkey (Adana, Antalya, İçel, Osmaniye) (Koçak & Kemal,2018). The male genitalia of the specimen (GP1225) collected from Adana Prov. (Pozantı) is illustrated here.

4183.*Eurhodope (s.str.) rosella* (Scopoli,1763)
Material studied: 1 ♂. İstanbul Prov., Pendik, Kaynarca (34H), 21 viii 1968, A.Koçak leg.
Remarks: This species is poorly known from northern Turkey only (Bursa, İstanbul, Amasya and Ardahan).

4187.*Eurrhypis pollinalis* ([Denis & Schiffermüller],1775)
Material studied: 1 ♂. Ankara Prov., Ayaş, Kayalıyatak 1200m (06Vf), 12.v.1988, A.Koçak leg.

4206. *Euzopherodes lutisignella* (Mann,1869)
Material studied: 2 ex. Central Turkey, Konya Pr., Halkapınar, Ivriz 1100m (42Xa), 2.ix.1980, A.Koçak leg.

4305.*Loxostege wagneri* Zerny,1929 (Fig.19)
Remarks: This species is known from Central Anatolia (Ankara) and Van (East Anatolia). The male genitalia of the specimen from Ankara is illustrated here.

4449.*Psammotis pulveralis* (Hübner,1796)
Material studied: 3♂♀. Bolu Prov., Abant road 1200m, 4.vii.1981, A.Koçak leg.
Remarks: This species is widely distributed in Turkey. New to Bolu Province.

4468. *Pyrausta aurata* (Scopoli,1763)
Material studied: 2♂. Bayburt Prov., 5km W Maden 1700m (69Bc), 12.vii.1985, A.Koçak leg.

4525. *Sitochroa verticalis* (Linnaeus,1758)
Material studied: 1♂. Bayburt Prov., 11km S of Maden, Lololu Pass 1820m (69Bd), 12.vii.1985, A.Koçak leg.
Remarks: New to Bayburt Province.

Sesiidae

4779. *Synanthedon* aff. *spuleri* (Fuchs,1908) (Fig. 20)
Remarks: This species is similar to *tipuliformis* and both of them occurs in North of Turkey. The male genitalia illustrated here is more resemble to *spuleri* than *tipuliformis*. However, it is hard to decide about its identity based upon the morphology of a single male, captured during feeding on *Evonymus* (Celastraceae). Bakowski (2013a) noted that the systematic position of *spuleri* was unclear. He also stated: "Molecular studies indicate that *S. spuleri* is closer related with *S. cephiformis* than with *S. tipuliformis*" (Bakowski, 2013b).

Sphingidae

4813. *Rethera komarovi* (Christoph,1885)
Material studied: 1♂. Bayburt Prov., 11km S of Maden, Lololu Pass 1820m (69Bd), 12.vii.1985, A.Koçak leg.
Remarks: New to Bayburt Province.

4817. *Sphinx ligustri* Linnaeus,1758
Material studied: 1♂. Bayburt Prov., 11km S of Maden, Lololu Pass 1820m (69Bd), 12.vii.1985, A.Koçak leg.
Remarks: New to Bayburt Province.

Tortricidae

5003.*Ancylis comptana* (Frölich,1828) (Fig. 21)
Remarks: This species is little known in Turkey (six provinces only) (Koçak & Kemal,2018). The male genitalia of the specimen from Kahramanmaraş Prov. (Üngüt) is illustrated here.

5044.*Celypha anatoliana* (Caradja,1916) (Fig. 22)
Remarks: This species is little known in Turkey (Koçak & Kemal,2018). *Celypha* species in Turkey is reviewed by Seven & Özdemir (2007). The male genitalia of the specimen from Ankara Prov., Ayaş (06B) is illustrated here.

5130.*Cochylis posterana* Zeller,1847 (Fig. 23)
Remarks: This species is widely distributed in Turkey. The male genitalia of the specimen from Ankara Prov., Kepekli Pass 1200m (06Kc) is illustrated here.

5248.*Epinotia subuculana* (Rebel,1903) (Fig. 24)
Remarks: This species is described from Austria and known in Turkey only from Konya Prov. (Ivriz). The male genitalia of the specimen from Ivriz (42Xa) is illustrated here. A molecular analysis of this species is also needed.

5339.*Notocelia trimaculana* (Haworth,[1811]) (Fig. 25)
Remarks: This species is known from Turkey (Afyon, Ankara, Bolu, Bursa, Konya and Kahramanmaraş) (Koçak & Kemal, 2018). The male genitalia of the specimen collected by A. Koçak from Konya Prov., İvriz (42Xa) is illustrated here.

5385.*Pelochrista infidana* (Hübner,[1824]) (Fig. 26)
Remarks: This species inhabits in *Artemisia* steppe. In Turkey, the male genitalia of the specimen collected by A. Koçak from Karapınar (Konya Prov.) (42O) is illustrated here.

5427.*Pseudococcyx tessulatana* (Staudinger,1871) (Fig. 27)
Remarks: This species is known from Turkey (Antalya, Hatay and İstanbul) (Koçak & Kemal, 2018). The male genitalia of the specimen collected by A. Koçak from Antalya Prov., Kemer 190m a.s.l. (07O) is illustrated here.

5451. *Tortrix viridana* (Linnaeus,1758)
Material studied: 1♂. Bayburt Prov., 11km S of Maden, Lolollu Pass 1820m (69Bd), 12.vii.1985, A.Koçak leg.
Remarks: This pest is widely distributed in Turkey, especially in *Quercus* woodlands. However, the present record is new to Bayburt Province.

Acknowledgements

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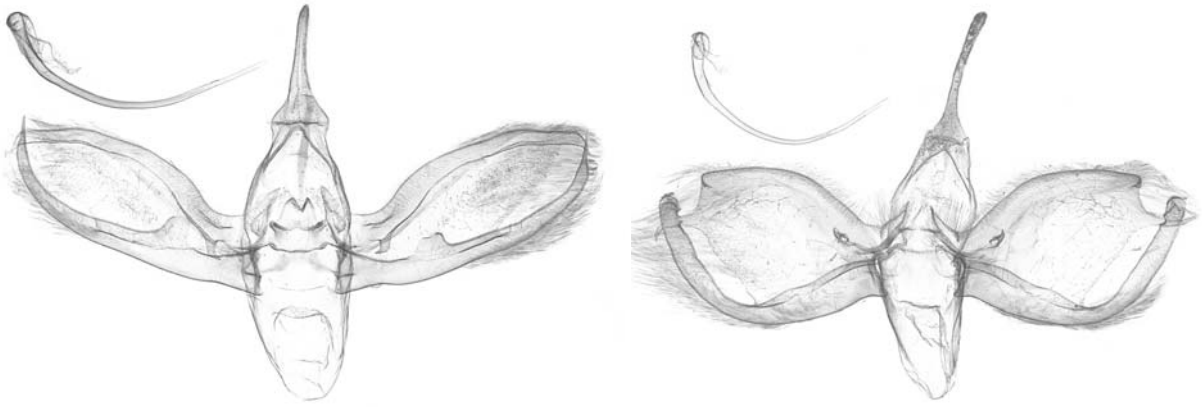
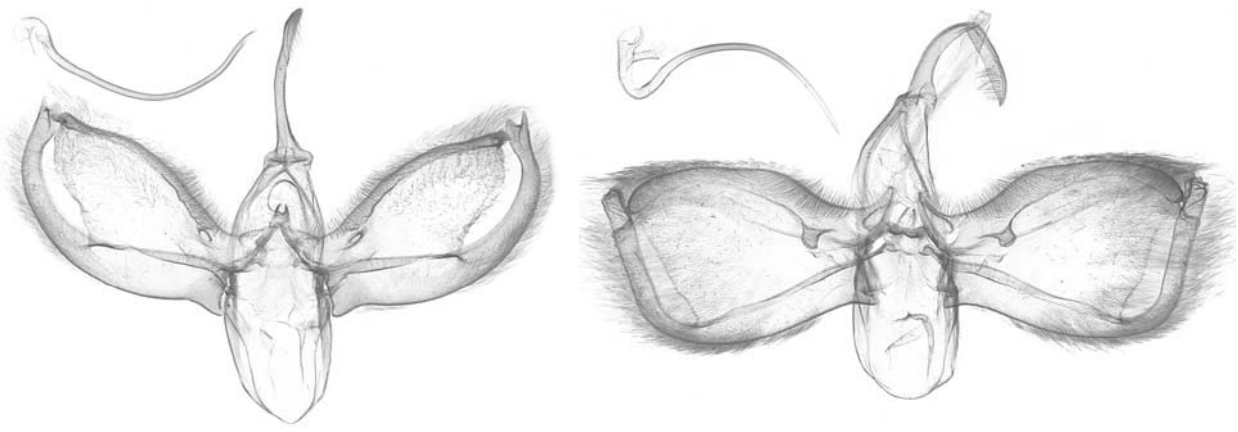
The genitalia illustrated in grey colour were prepared by A. Koçak in 1976-1985. They are preserved in the Archive of the Cesa.

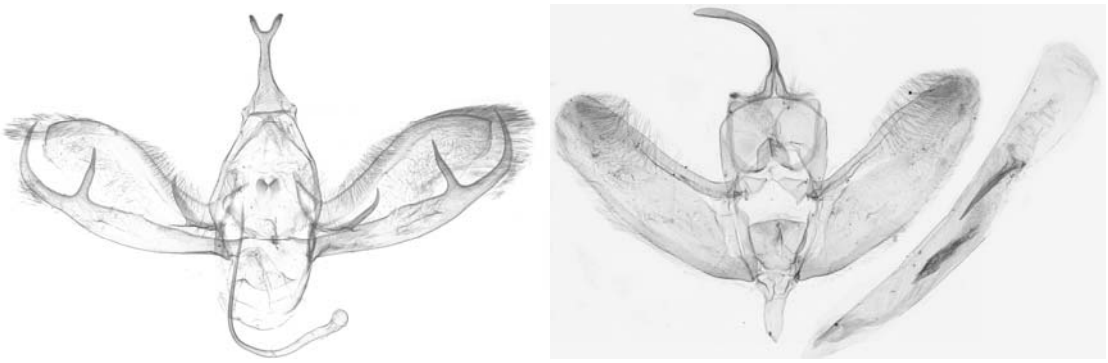
Figs. 1, 2 – *Azygophleps regia* (Cossidae). Male genitalia (GP735) (left). *Zeuzera pyrina* (Cossidae). Male genitalia (GP736). Hatay Prov., Akbes (right).



Figs. 3, 4 - *Aplocera annexata* (Geometridae). Male genitalia (GP429). Bursa Prov., Uludağ (left). *Aplocera numidaria* (Geometridae). Male genitalia (GP430). Amasya Prov. (right).



Figs. 5, 6 – *Aplocera obsitaria* ssp. *evanescens* (Geometridae). Male genitalia (GP431). Kahramanmaraş Prov. (left). *Aplocera opificata* (Geometridae). Male genitalia (GP428). Erzincan Prov., Refahiye (right).



Figs. 7, 8 – *Aplocera uniformata* (Geometridae). Male genitalia (GP426). Gümüşhane Prov., Torul, Zigana Pass (left). *Asovia maeoticaria* (Geometridae). Male genitalia (GP671). Konya Prov., Akşehir (right).

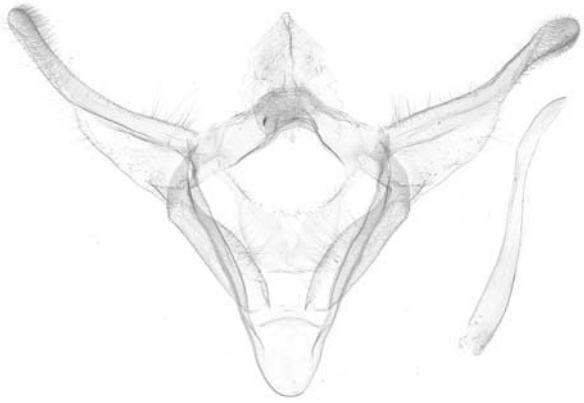
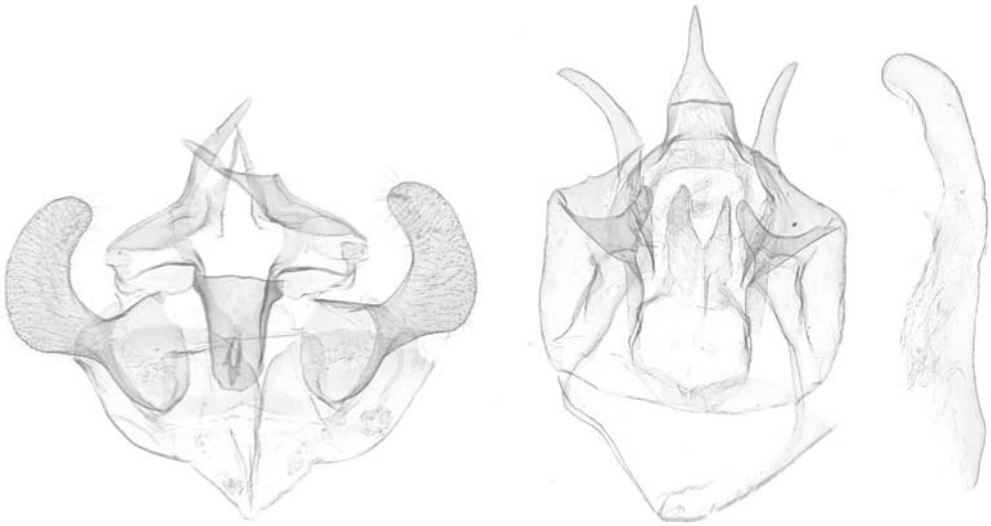


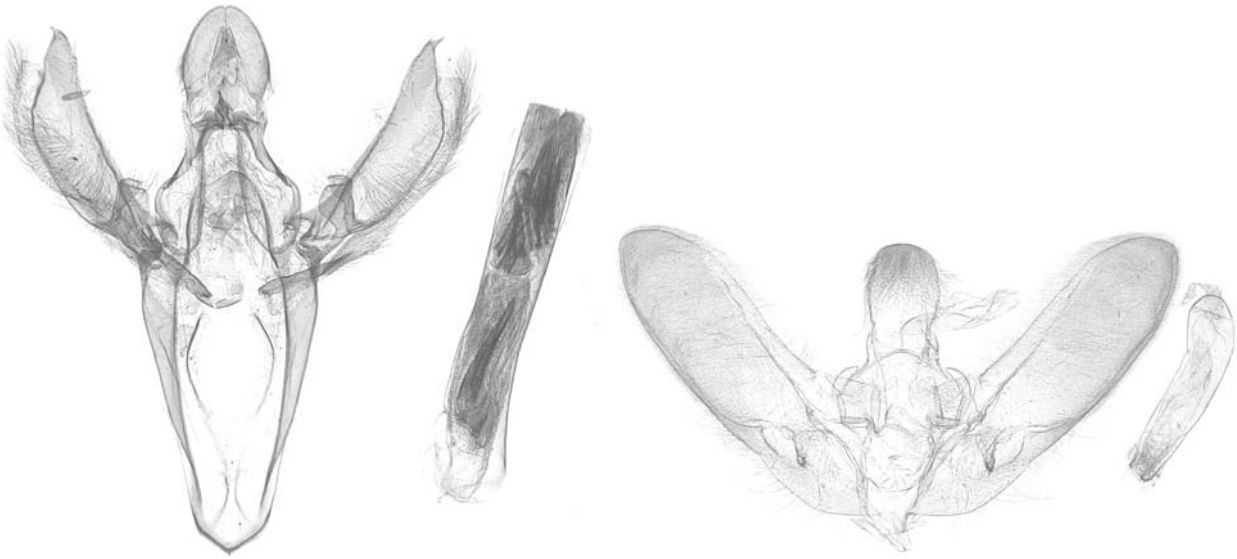
Fig. 9 – *Eumera turcosyrica* (Geometridae). Male genitalia (GP727♂) Konya Prov., Beyşehir

Figs. 10-13 – *Eupithecia brunneata* (Geometridae). Male genitalia (GP3137) (top left). Abdominal tergite and sternite (top right). Upperside of male (bottom left). Tympanal organ (before and after preparation) (bottom right). Diyarbakır Prov., Hazro, Uzunargıt, M. Kemal (Cesa)

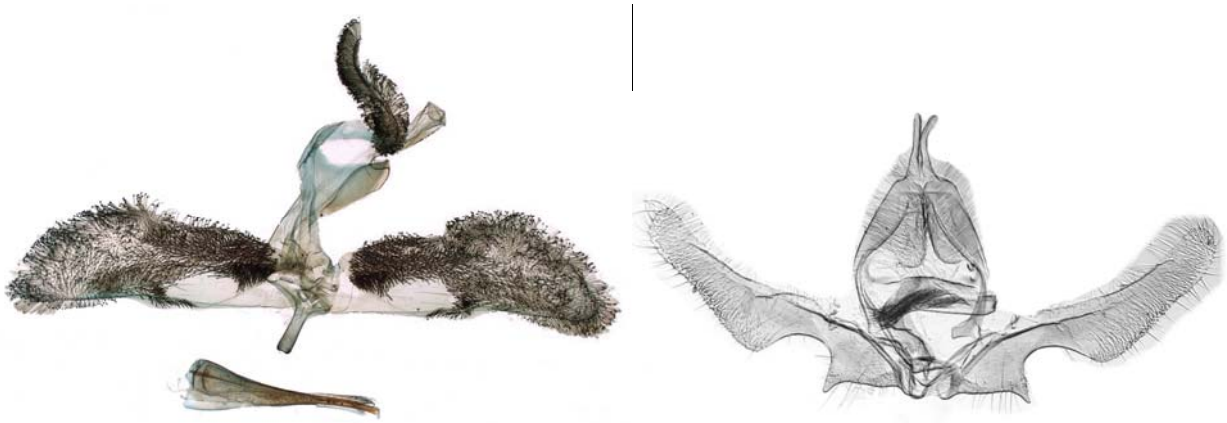


Figs. 14, 15 - *Triodia amasina* (Hepialidae). Male genitalia (GP728♂). Konya Prov., Meram, Altınapa (42Rb) (left). *Polymona lapidicola* (Lymantriidae). Male genitalia (GP732). Konya, Meram, Altınapa (right).

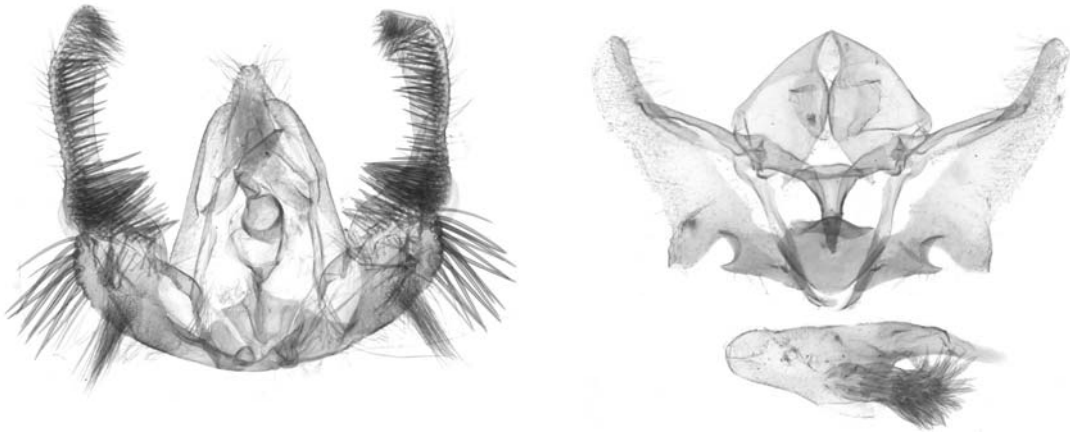
Figs. 16, 17 – *Oligia latruncula* (Noctuidae). Male genitalia (GP3136). Bolu Prov., Abant road (left). *Agonopterix ciliella* (Oecophoridae). Male genitalia (GP3137). Bolu, Abant (right), both prepared by M. Kemal.



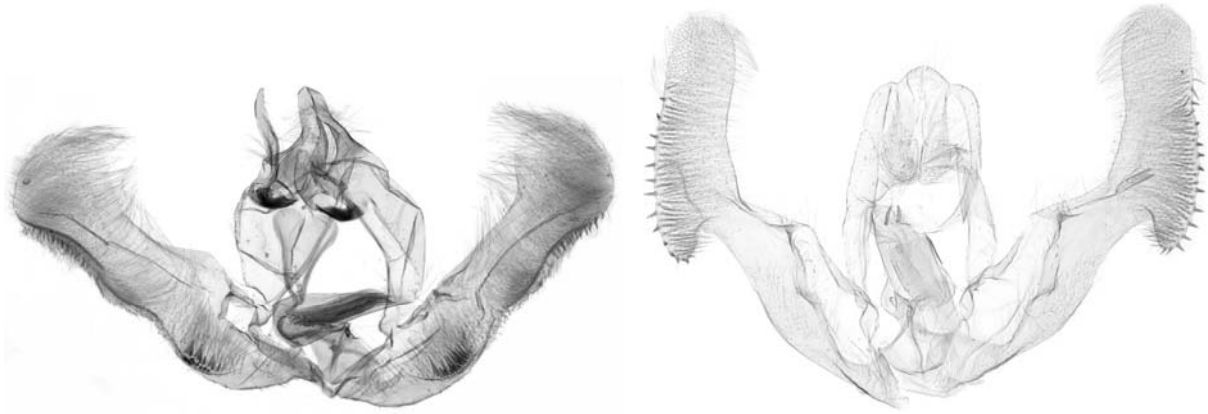
Figs. 18, 19 – *Dioryctria mendacella* (Pyralidae). Male genitalia (GP1225). Adana Prov., Pozantı (01H) (left). *Loxostege wagneri* (Pyralidae). Male genitalia (GP777). Ankara Prov., Şereflikoçhisar, Topçam, Tuzgölü (06Ya) (right).



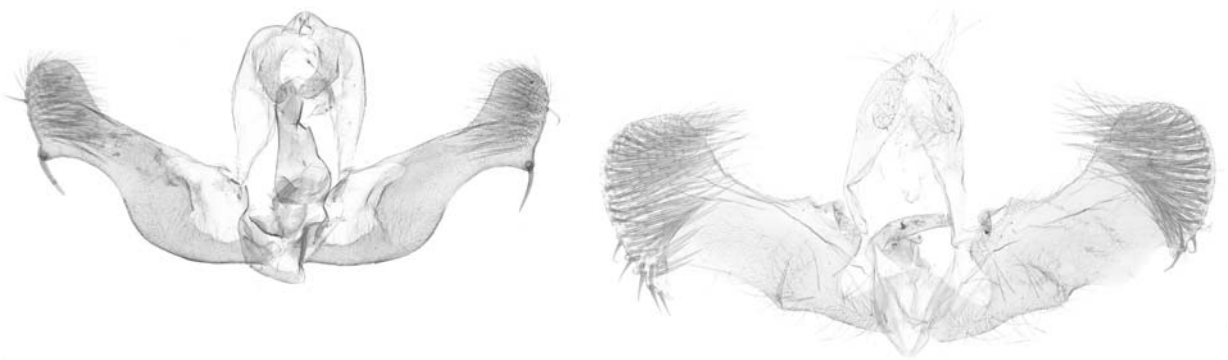
Figs. 20, 21 – *Synanthedon* aff. *spuleri* (Sesiidae). Male genitalia (GP1121). Bolu Prov., vic. Bolu city (left). *Ancylis comptana* (Tortricidae). Male genitalia (GP499). Kahramanmaraş, Üngüt (right).



Figs. 22, 23 – *Celypha anatoliana (Tortricidae)*. Male genitalia (GP1158). Ankara Prov., Ayaş (left). *Cochylis posterana* (Tortricidae). Male genitalia (GP632). Ankara Prov., Kepekli Pass 1200m (06Kc) (right).



Figs. 24, 25 – *Epinotia subuculana* (Tortricidae). Male genitalia (GP651). Konya Prov., Ivriz (left). *Notocelia trimaculana* (Tortricidae). Male genitalia (GP653). Konya Prov., İvriz (right).



Figs. 26, 27 – *Pelochrista infidana* (Tortricidae). Male genitalia (GP652). Konya Prov., Karapınar (42O) (left). *Pseudococcyx tessulatana* (Tortricidae). Male genitalia (GP633). Antalya Prov., Kemer (right).

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